

Claims

1. A safety shutdown system for controlling a fluid delivery system, the fluid delivery system including a valve for selectively closing flow between a first and second fluid vessel, and an engine for driving a fluid delivery pump, the safety shutdown system comprising:
 - a timer activated in response to a timer activation signal for timing a countdown interval;
 - a timer activation input for selectively inputting the timer activation signal to the query timer for selectively enabling the query timer;
- 5 a wireless transmitter for selectively transmitting a timer reset signal to the timer to reset the countdown interval; and
 - a controller for automatically closing the valve and killing the engine if the timer times out.
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- 15 2. A safety shutdown system as defined in Claim 1, wherein the timer activation input comprises:
 - at least one pair of input terminals for selectively inputting the timer activation signal.
- 20 3. A safety shutdown system as defined in Claim 2, wherein the timer activation signal comprises:
 - a current induced by electrically closing the input terminals to complete a query enabling circuit.
- 25 4. A safety shutdown system as defined in Claim 1, further comprising:
 - one or more sensors responsive to one or more selected fluid delivery characteristics to generate the timer activation signal.
- 30 5. A safety shutdown system as defined in Claim 4, wherein the one or more sensors are selected from the group consisting of a pressure sensor for sensing fluid pressure and a flow sensor for sensing fluid flow.

6. A safety shutdown system as defined in Claim 4, wherein the one or more sensors comprise:

5 a lever motion sensor responsive to motion of a lever on the fluid delivery system.

7. A safety shutdown system as defined in Claim 1, wherein the first fluid vessel is a tank on a vehicle, and the second fluid vessel is a tank structurally separate from the vehicle.

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8. A safety shutdown system as defined in Claim 1, further comprising: one or more function activators for activating one or more selected functions in response to a function activation signal from the wireless transmitter.

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9. A safety shutdown system as defined in Claim 8, wherein the one or more function activators are selected from the group consisting of a throttle speed activator for selectively increasing engine speed on a vehicle, a reel rewind activator for selectively rewinding fluid hose onto a reel, and an engine kill activator for selectively shutting down the vehicle engine.

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10. A safety shutdown system as defined in Claim 8, wherein the controller automatically turns off at least one of the one or more selected functions if the timer times out.

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11. A safety shutdown system as defined in Claim 8, further comprising: a set of function connection terminals for selectively connecting the one or more selected functions.

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12. A safety shutdown system as defined in Claim 1, further comprising: an alarm initiated by the controller.

13. A safety shutdown system as defined in Claim 12, wherein the alarm sounds prior to the timer timing out.

14. A safety shutdown system as defined in Claim 1, wherein the wireless transmitter transmits within a radio frequency range.

15. A safety shutdown system for controlling a fluid delivery system, the fluid delivery system including a valve for selectively closing flow between a tank on a vehicle and another tank structurally separate from the vehicle, and an engine for driving a fluid delivery pump, the safety shutdown system comprising:

a timer activated in response to a timer activation signal for timing a countdown interval;

one or more sensors responsive to one or more selected fluid delivery characteristics to generate the timer activation signal;

15 at least one pair of input terminals for selectively inputting the timer activation signal;

a wireless transmitter transmitting on a radio frequency for selectively transmitting a timer reset signal to the timer to reset the countdown interval;

20 a controller for automatically closing the valve and killing the engine if the timer times out;

an alarm for activation by the controller prior to the timer timing out; and

one or more function activators for activating one or more selected functions in response to a function activation signal from the wireless transmitter.

25 16. A safety shutdown system as defined in Claim 15, wherein the timer activation signal comprises:

a current provided by electrically closing the input terminals to complete a query enabling circuit.

17. A safety shutdown system as defined in Claim 15, wherein the one or more sensors are selected from the group consisting of a pressure sensor for sensing fluid pressure and a flow sensor for sensing fluid flow.

5 18. A safety shutdown system as defined in Claim 15, wherein the one or more function activators are selected from the group consisting of a throttle speed activator for selectively increasing engine speed on a vehicle, a reel rewind activator for selectively rewinding fluid hose onto a reel, and an engine kill activator for selectively shutting down the vehicle engine.

10 19. A safety shutdown system as defined in Claim 15, further comprising: a set of function connection terminals for selectively connecting the one or more selected functions.

15 20. A method of controlling a fluid delivery system, the fluid delivery system including a valve for selectively closing flow between a first and second fluid vessel, and an engine for driving a fluid delivery pump, the method comprising:
 providing a timer having a timer activation input;
 selectively inputting a timer activation signal to the timer activation input, to
20 activate the timer and begin timing a countdown interval;
 selectively transmitting a timer reset signal to the timer to reset the countdown interval; and
 automatically closing the valve and killing the engine if the timer times out.

25 21. A method as defined in Claim 20, wherein the timer activation input comprises:

 at least one pair of input terminals for selectively inputting the timer activation signal.

30 22. A method as defined in Claim 21, wherein inputting the timer activation signal comprises:

providing a current by electrically closing the input terminals to complete a query enabling circuit.

23. A method as defined in Claim 20, further comprising:
 - 5 providing one or more sensors responsive to one or more selected fluid delivery characteristics; andselectively generating the timer activation signal in response to the sensed fluid delivery characteristics.
- 10 24. A method as defined in Claim 20, further comprising:
 - providing one or more function activators for activating selected vehicle functions; andselectively transmitting a function activation signal to activate the function activators.
- 15 25. A method as defined in Claim 20, further comprising:
 - automatically turning off at least one of the one or more selected functions if the timer times out.
- 20 26. A method as defined in Claim 1, further comprising:
 - initiating an alarm prior to the timer timing out.